

Appl. No. 10/805,048
Amdt. Dated Sep. 17, 2005
Reply to Office Action of June 17, 2005

REMARKS

Claims 1 and 3-6 have been amended. Claims 2 and 7 have been canceled without prejudice. Claims 1 and 3-6 remain pending in the application. Further, new claims 8-11 have been added.

Claim Rejections under 35 U.S.C. 112

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 1, the recitation "A current driving apparatus" is indefinite. The recitation "the drive current" on lines 2-3 lacks antecedent basis. Claims 2-5 are indefinite because of the technical deficiencies of claim 1.

By the above amendments, applicant has amended claim 1 in order to overcome the rejection thereof. Applicant has canceled claim 2 without prejudice, and has incorporated the substance of the limitation(s) of claim 2 into amended independent claim 1.

Amended claim 1 now recites "A driving apparatus for generating a drive current..."

It is submitted that the claim language now clearly relates to a driving apparatus that generates a drive current. Accordingly, the recitation "the drive current" on lines 2-3 now has antecedent basis. It is believed that claim 1 now particularly points out and distinctly claims the subject matter. Reconsideration and withdrawal of the rejection of claim 1 are respectfully requested. Accordingly, reconsideration and withdrawal of the rejection of dependent claims 3-5 are also respectfully requested.

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Claim Rejections Under 35 U.S.C. 102

Claims 1, 2, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Blum et al (USP. 5,663,667).

By the above amendment, applicant has canceled claims 2 and 7 without prejudice, and has incorporated the substance of the limitation(s) of claim 2 into amended independent claim 1. In response to the rejection, applicant submits that amended claims 1 and 6 are allowable over Blum et al, as follows:

Amended claim 1 recites in part:

...the low frequency sawtooth wave generator is connected to one input of the first comparator of the first square wave generator...

Applicant submits that Blum et al does not disclose, teach, or otherwise suggest the invention as currently recited in amended claim 1.

Blum et al does disclose a circuit, in which the output of the PWM 14 is input into the R input of the PWM latch (flip-flop) 26, and an oscillator 28 provides the input into the S input of the PWM latch 26 (column 4, lines 11-13, and Fig. 7). However, Blum et al does not disclose or suggest a driving apparatus in which "...the low frequency sawtooth wave generator is connected to one input of the first comparator of the first square wave generator..." That is, in Blum et al, the oscillator 28 is connected to the input S of the PWM latch 26, with the PWM latch 26 being similar to the second square wave generator in amended claim 1. Accordingly, this

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difference indicates that Blum et al fails to teach or suggest the driving apparatus as recited in amended claim 1.

In summary, there is nothing in the cited reference that teaches or suggests to one of ordinary skill in the art that they might or should provide the driving apparatus of amended claim 1. Furthermore, the driving apparatus as recited in amended claim 1 produces new and unexpected results. That is, the driving apparatus can provide precise current and timing control.

Accordingly, amended claim 1 is submitted to be novel, unobvious and patentable over Blum et al under both s.102(b) and s.103. Reconsideration and withdrawal of the rejection and allowance of amended claim 1 are respectfully requested.

Amended claim 6 recites the limitation of "...the low frequency sawtooth wave generator is connected to one input of the first comparator of the first square wave generator..." This limitation is similar to the corresponding limitation of amended claim 1 detailed above. For reasons similar to those asserted above in relation to amended claim 1, applicant submits that amended claim 6 should also be allowable.

Claims 1, 2, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Faulk (USP. 5,777,503).

By the above amendment, applicant has canceled claims 2 and 7 without prejudice, and has incorporated the substance of the limitation(s) of claim 2 into amended independent claim 1. In response to the rejection, applicant submits that amended claims 1 and 6 are allowable over Faulk, as follows:

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Amended claim 1 recites in part:

A driving apparatus, comprising a first square wave generator directed to accomplish the timing control of the drive current...

Applicant submits that Faulk does not disclose, teach, or otherwise suggest the invention as currently recited in amended claim 1.

Faulk does disclose a circuit for providing precision control of the switching power supply for low input currents (column 1, lines 8-10). However, Faulk does not disclose or suggest a driving apparatus "...comprising a first square wave generator directed to accomplish the timing control of the drive current....." That is, in amended claim 1, the wave generator outputs square wave signals. In Faulk, it discloses that "At time T1, V_{RAMP} equals V_c and comparator 244 asserts V_{CNTRL} . This low-to-high transition of V_{CNTRL} triggers drive circuit 226 to negate V_{GI} " (column 6, lines 16-19). It is readily apparent that the generator of amended claim 1 and the comparator 244 of Faulk, and the output signals thereof, are different. Accordingly, these differences indicate that Faulk fails to teach or suggest the driving apparatus as recited in amended claim 1.

In summary, there is nothing in the cited reference that teaches or suggests to one of ordinary skill in the art that they might or should provide the driving apparatus of amended claim 1. Furthermore, the driving apparatus as recited in amended claim 1 produces new and unexpected results. That is, the driving apparatus can provide precise current and timing control.

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Accordingly, amended claim 1 is submitted to be novel, unobvious and patentable over Faulk under both s.102(b) and s.103. Reconsideration and withdrawal of the rejection and allowance of amended claim 1 are respectfully requested.

Amended claim 6 recites the limitation of "A driving apparatus, comprising a first square wave generator directed to accomplish the timing control of the drive current..." This limitation is similar to the corresponding limitation of amended claim 1 detailed above. For reasons similar to those asserted above in relation to amended claim 1, applicant submits that amended claim 6 should also be allowable.

New claim 8 has been added. This claim depends directly from amended claim 6. In view of the above remarks regarding amended claim 6, new claim 8 is believed to be patentable and in a condition for allowance.

Allowable Subject Matter

By the above amendments, applicant has added new claims 9-11. Claim 9 is the equivalent of original claim 3 rewritten in independent form including all the limitations of the original base claim 1. Claims 10-11 are the equivalent of original claims 4-5. Thus claim 10 is written to depend from claim 9, and claim 11 is written to depend from claim 10. Further, all of claims 9-11 are written to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph. Thus, new claims 9-11 are submitted to be allowable.

In view of the foregoing, the present application as claimed in the pending claims is considered to be in a condition for allowance, and an action to such effect is earnestly solicited.

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